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ABSTRACT

Differences between high and low perceived physical self-concept and actual motor performance of 120 fifth grade boys were investigated. Self-concept was measured by the Physical Self-Concept Scale. Motor proficiency was measured by a four-item advanced agility/coordination test battery: hand-eye coordination; foot-eye coordination; whole body agility/coordination without running; and whole body agility/coordination with running. Results indicated that there was a difference between the upper and lower third groups on perceived self-concept and actual motor performance. The upper group (high perceived physical self-concept) was high on actual motor performance. The separate motor performance tasks of the whole body agility/coordination with and without running were assessed as the best predictors for actual motor performance. Subjects exhibited a stable self-concept which accurately predicted their actual motor performance. (JD)

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DIFFERENCES BETWEEN ACTUAL MOTOR ABILITY AND PHYSICAL SELF-CONCEPT (PERCEIVED MOTOR PERFORMANCE/BODY IMAGE) OF FIFTH-GRADE BOYS

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The past decade reveals a substantial expansion in the amount of research, publications, and interest in the area of self-concept. Behavioral scientists have long since acknowledged the complexity and uniqueness of every human being. Fitt (1972) addressed the general understandings associated with self-concept theory by stating that self-concept is a central and critical variable in human behavior and that the measurement problem in self-concept research is critical. At this period of development in theoretical rationale, it is well established that self-concept is a significant variable in human behavior.

There are many more yet unanswered questions related to self-concept. Self-concept instruments have been devised to assess the individual's perception of self. These instruments are used in the assessment of body image; body cathexis, and more frequently a global self-esteem (Kirkendall, Gruber and Johnson, 1980). Even with the emergence of a wider variety of self-concept instruments, a need for a more definitive instrument has surfaced from a recent study (Kirk, 1981) dealing with the relationships of the self-concept and general motor ability. It is logical to infer that a child's attitude concerning his self-concept will influence and be influenced by his perception of his physical abilities. Consequently, specific more advanced general motor ability tests measuring hand-eye, foot-eye, whole body agility/coordination with and without running were chosen for this study. These advanced motor performance tasks were selected in an effort to more accurately identify the extremes with respect to physical self-concept and motor performance.

Agility is generally recognized as the ability to change direction rapidly with a high degree of accuracy. Most tests are devised with a quick change of

direction in running; however, agility can be evidenced through quick movements or changes in body positions (Johnson and Nelson, 1979).

Coordination is defined by Kirkendall, Gruder and Johnson (1980) as the harmonious interplay of muscle groups during a motor performance that provides us with some indication of skill. Physical educators generally conclude that one must be agile to be well coordinated.

The main purpose of this study was to determine whether there were significant differences between high and low perceived physical self-concepts of fifth-grade boys and actual motor performance. Self-concept was measured by the Physical Self-Concept Scale (PSCS). Motor proficiency was measured by a four item advanced agility/coordination test battery. The motor battery measured tne following physical parameters: hand-eye/coordination (basketball dribble test), foot-eye/coordination (soccer dribble test), whole body agility/coordination without running (side-step test), whole body agility/coordination with running (obstacle test - Scott Motor Ability Test).

Method

The subjects of this study were 120 physically sound fifth-grade boys. Subjects compiled four motor performance scores, two interpretable factor scores on the PSCS, and a composite PSCS score. Subjects scoring in the upper and lower third on the total perceived physical self-concept instrument were grouped for analysis. Significant differences on motor performance was determined by univariant and multivariant analyses.

Boling and Kirk designed "The Physical Self-Concept Scale" to reveal specific difinitive criteria related to the physical self-concept. The PSCS was administered to the boys as a group. Subjects were then administered the

four item motor proficiency test battery in the following order: (a) basketball dribble, (b) soccer dribble, (c) side-step, and (d) obstacle race.

Handley (Note 1) investigated the structure of this 40-item scale by multiple factor analysis. The total sample was 250 children. A principal components analysis was computed deriving factorial solutions for the 20 body image items and the 20 perceived motor performance items. Internal consistency of the scale was judged by the Kuder-Richardson Formula 21 with the resulting coefficient for fifth-grade boys being .93. The internal reliability for the 20 body-image items was .86; 20 perceived motor performance items was .89. Consequently, the scale is judged to have good internal consistency and acceptable reliability over time intervals. A retest study was conducted yielding a reliability coefficient of .72. Established reliability data for the four physical test items was: basketball dribble (hand-eye/coordination) .89 (McCloy and Young, 1956); soccer dribble (foot-eye coordination) .92 (Baumgartner and Jackson, 1975); side-step test (agility/coordination without running) .89 (Johnson and Nelson, 1979); obstacle test - Scott Motor Ability Test (agility/coordination with running) .91 (Johnson and Nelson, 1979).

Results and Discussion

The results of the statistical analyses were reported according to the three questions to be answered by the study.

Differences in physical performance for upper and lower third groups (composite self – concept). The statistical program used to analyze the differences in fifth-grade males in the upper and lower third groups on a composite physical self-concept score as compared to separate motor performance tasks were analysis of variance and multivariant analysis of variance. The

results of the statistical analyses was reported in Table 1. The one way analysis of variance reported a ratio of 8.40 indicating significance at the .01 level in favor of the high physical self-concept group. The other univariant analysis yielded no significant difference. Data derived from the multivariate analysis disclosed an F of 8.40 for the side step test and an F of 5.40 for the combined effects of the side step and obstacle run. The combined effects were significant at the .01 level with 2 and 84 degrees of freedom. It is evident that student performance on the side step test was the single most important factor when comparing high and low physical self-concept groups.

Differences in upper and lower third groups [Body Image (Physical Self-concept (Subscale)] . On the univariate comparisons, no significant differences were indicated between the upper and lower third groups [Body Image Physical Self-concept (Subscale)] and separate motor performance scores. No further analysis was necessary.

Differences in upper and lower third groups [Perceived Motor Performance Physical Self-concept (Subscale)] . Differences between upper and lower third groups on perceived motor performance and actual motor performance revealed a significant difference between the two groups. The comparison using analysis of variance (Table 2) yielded an F of 18.71 for the side step analysis which was significant at the .01 level. A multivariate analysis disclosed an F of 14.90 for the obstacle run, which was also significant at the .01 level. The perceived motor performance scores when compared against actual motor performance scores more accurately identified the side-step test and the obstacle run as being the best predictors of overall perceived motor performance.

In summary, this study has determined that there was a difference between the two groups on perceived physical self-concept and actual motor performance. The upper group (perceived physical self-concept) was indeed high on actual motor performance. The separate motor performance tasks of the side-step test and the obstacle test - Scott Motor Ability Test (whole body agility/coordination with and without running) were assessed as the best predictors for actual motor performance. Consequently, fifth-grade boys exhibit a stable physical self-concept which accurately predicts their actual motor performance. Additional variables should be examined in relationship to self-concept. Possible variables for further study are age, height, weight, socioeconomic level, sociometric standing, birth order, sex, intelligence, experimental background.

Table 1
Comparisons of High and Low Physical Self-Concept Groups on Motor Performance

Criteria	High Self-Concept N	X	SD	Low Self-Concept N	X	SD	Univariate F	Multivariate df	Wilk's Lambda	F	P
Side Step	47	15.02	2.18	40	13.25	3.46	8.40*	1,85	.91	8.40*	.0048
Obstacle Run	47	19.43	1.88	40	19.55	4.98	.02	2,84	.89	5.40*	.0062
Basketball Dribble	47	10.86	2.07	40	11.05	1.86					
Soccer Dribble	47	19.84	4.89	40	20.31	5.65					
Composite								2,84	.89	5.40*	.0062

*Significant at the .01 level.

Table 2
Comparisons of Perceived Motor Performance Subscale With Actual Motor Performance

Criteria	High Self-Concept N	X	SD	Low Self-Concept N	X	SD	Univariate F	Multivariate df	Wilk's Lambda	F	P
Side Step	39	15.72	1.83	40	12.68	4.00	18.71*	1,77	.80	18.71*	.00
Obstacle Run	39	19.31	1.68	40	19.17	5.91	.02	2,76	.71	14.90*	.00
Basketball Dribble	39	10.82	1.79	40	10.93	2.43					
Soccer Dribble	39	20.15	4.37	40	19.96	6.67					
Composite								2,76	.71	14.90*	.00

*Significant at the .01 level.

Reference Note

1. Handley, H. M., Senior Researcher - Mississippi State University, College of Education. Personal Communication, July, 1982.

References

Baumgartner, T. A. & Jackson, A. A. Measurement for evaluation in physical education. Boston. Houghton Mifflin, 1975.

Corbin, C. B. A textbook of motor development. Dubuque, Iowa: Wm. C. Brown Company Publishers, 1973.

Cox, S. H. Family background effects on personality development and social acceptance. Unpublished doctoral dissertation, Texas Christian University, 1966.

Cratty, B. J. Psychology and Physical Activity. Englewood Cliffs, N. J.: Prentice-Hall, 1968.

Cratty, B. J., Namiko, I., Martin, M., Jennett, C., & Morris, M. Movement activities, motor ability and the education of children. Springfield, Ill.: Charles C. Thomas Publisher, 1970.

Erikson, E. H. Childhood and society. New York: W. W. Norton, 1950.

Erikson, E. H. Identity, youth and crisis. New York: W. W. Norton, 1968.

Espenchade, A. & Eckert, H. M. Motor development. Columbus, Ohio: Charles E. Merrill, 1967.

Fitt, W. H. The self-concept and behavior: overview and supplement. Dede Wallace Center Monograph. Nashville, 1972.

Glasson, R. & Kruse, P. Motor performance of girls age six to fourteen years. Research Quarterly, 1960, 31(3), 426-433.

Jorsild, A. T. Child Psychology. Englewood Cliffs, N. J.: Prentice-Hall, 1968.

Johnson, W. R., Fretz, B. R., & Johnson, J. Changes in self-concepts during a development program. Research Quarterly, 1968, 39(3), 560-565.

Kirk, P. C. Relationships between motor ability and self-concept of fifth-grade boys. Doctoral dissertation, Mississippi State University, 1981.

Kirkendall, D. R., Gruber, J. T. & Johnson, R. E. Measurement and evaluation for physical educators. Dubuque, Iowa: Wm. C. Brown Company, Publishers, 1980.

McCloy, C. H. & Young, N. D. Test and measurement in health and physical education. New York: Appleton - Century Crofts, Inc., 1956.

Wylie, R. C. The self-concept. Lincoln: University of Nebraska Press, 1967.